

Land Planarians (Turbellaria: Tricladida: Terricola) Introduced into Australia — 2. *Kontikia orana* Froehlich, 1955

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Within the chiefly Indo-Pacific geoplanid land planarian genus *Kontikia* are included some seven species which occur in Australia. One of these species, *Kontikia orana* previously known only from Brazil, has now been recorded in Townsville, Queensland. This paper provides a brief description of *K. orana* together with specimen and literature records of this species. Voucher specimens lodged with the Queensland Museum are prefixed GL. Specimens in the author's collection are prefixed LW.

Family GEOPLANIDAE

Genus *Kontikia* Froehlich, 1955

Kontikia orana Froehlich

?*Geoplana kenneli*, Schirch, 1929

Kontikia orana Froehlich, 1955, 1956;
Froehlich and Froehlich, 1972

Type Locality

Ubatuba, Sao Paulo, Brazil (Froehlich and Froehlich, 1972)

Material Examined

AUSTRALIA: QUEENSLAND: Townsville suburbs: Aitkenvale (LW1081); Kelso (LW1114; GL4722; GL4723); Queens Gardens (LW1429; LW1456). BRAZIL: SAO PAULO: Ubatuba (LW736).

Literature Records

BRAZIL: PARANÁ: Curitiba (Froehlich, 1956b); RIO DE JANEIRO: Via Dutra; SAO PAULO: Baía de Paranaguá area; Itanhaen; Jardim Europa; Vila Atlântica; Ubatuba; STA. CATARINA: Blumenau; Brusque; Itajaí (Froehlich,

1956b); TERRITORIO DO AMAPÁ: Serra do Navio (Froehlich and Froehlich, 1972).

Description

Living specimens measure 20-25 mm in length. The cylindroid body is gradually tapered anteriorly, more abruptly posteriorly. In a preserved sexual specimen 12.5 mm long, the mouth is 7.6 mm from the anterior tip and gonopore 3.1 mm posterior to the mouth. Small but prominent eyes pass posteriorly from the anterior tip in a slightly staggered single submarginal row. A pale sensorial zone is situated around the ventral margin of the anterior tip.

Dorsal ground colour, which extends to the outer ventral zone, varies from an ash grey to a pale orange. There are three dorsal longitudinal stripes (Fig. 1): a black median stripe, about quarter body width, separated by the same interval of ground colour from the lateral stripes. The brown lateral stripes are generally half the width of the median stripe. Anteriorly the three stripes merge into the brownish colour of the anterior tip. The ventral surface is translucent white.

The copulatory organs (Fig. 2) are situated in the posterior quarter of the body. A complex network of ducts link testes and vas deferens. The latter, just anterior to the copulatory organs form spermiducal vesicles. These then ascend, incurve and penetrate the mid anterior wall of the penis bulb, combine and open directly into the prostatic duct. This then communicates with the ejaculatory duct which opens into the common atrium through a small papilla.

Ovovitelline ducts pass posteriorly from the ovaries, rise either side of the posteri-

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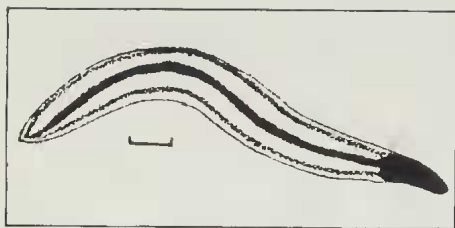


Fig. 1. *Kontikia orana*. Dorsal aspect. Scale bar represents 1 mm.

or diverticulum and adjoin the distal end of the glandular canal. In this area a complex anastomosing network of vitelline lacunae link the canal and ovovitelline ducts. Following copulation, these lacunae may be filled with spermatozoa. The glandular canal, and lying immediately beneath it the posterior diverticulum, both open into the common atrium through the dorso-posterior atrial wall. There is no connection between the posterior diverticulum and the glandular canal, ovovitelline ducts, vitelline lacunae or intestine.

Specific Characters

Many *Kontikia* species have similar colour and stripe patterns. For this rea-

son full identification of a species requires histological examination of sexual specimens.

Internally the copulatory organs of *K. orana* are very similar to those of *K. whartoni*, Beauchamp, 1956 from Reunion Island. Whether *K. orana* and *K. whartoni* Beauchamp are conspecific with *K. whartoni* (Gulliver, 1868) from Rodriguez Island is not clear and must await re-examination of the original specimens.

Other similar species of *Kontikia* differ from *K. orana* chiefly by the absence of the vitelline lacunal complex and by the presence of a genito-intestinal communication between the posterior diverticulum and the intestinal rami.

Occurrence

In Brazil it is considered that *K. orana* is an introduced species possibly transported from overseas together with banana rhizomes (Froehlich, 1955). It is confined to man-modified areas. In Townsville, Queensland a similar situation exists. Here *K. orana* is confined to urban gardens and is found in association with two introduced species of land planarians *Bipalium kewense* and *Platydemus*

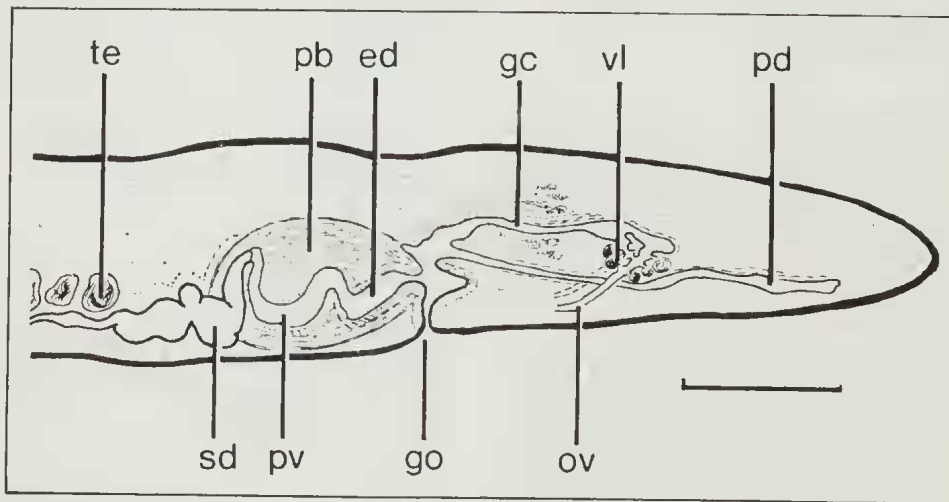


Fig. 2. *Kontikia orana*. Copulatory organs. ed — ejaculatory duct; gc — glandular canal; go — gonopore; ov — ovovitelline duct; pb — penis bulb; pd — posterior diverticulum; pv — prostatic vesicle; sd — spermatid vesicles; te — testis; vl — vitelline lacunae (filled with spermatozoa). Scale bar represents 0.5 mm.

manokwari, and the introduced veronicellid molluscs *Laevicaulis alte* and *Vaginulus plebeius*. Spread of *Kontikia orana* to the newer western suburbs of Townsville may be via banana rhizomes but at present there exists only circumstantial evidence supporting this mode of dispersal.

Acknowledgements

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REFERENCES

- Beauchamp, P. de. (1956) A propos *Kontikia whar-toni* (Gulliver) Planarie terrestre des Mascareignes. *Bull. Soc. zool. Fr.* 80:307-313.
- Froehlich, C. G. (1955) Sobre morfologia e taxonomia das Geoplanidae. *Bôlem. Fac. Filos. Ciênc. Univ. S Paulo* 19:192-251.
- Froehlich, C. G. (1956a) On the biology of land planarians. *Bôlem. Fac. Filos. Ciênc. Univ. S Paulo* 20:263-272.
- Froehlich, C. G. (1956b) Planarias terrestres do Paraná. *Dusenía* 7:173-191.
- Froehlich, E. M. and Froehlich, C. G. (1972) Planarians from the Amazonian Region. *Papeis. Dep. Zool. S Paulo*, 26:29-45.
- Gulliver, G. (1868) Turbellaria. *Phil. Trans. R. Soc.* 168:557-563.

Vegetation Map and Guide to the Plant Communities of East Gippsland

The Department of Conservation, Forests and Lands has recently released a Floristic Vegetation Map and Guide to the Plant Communities of East Gippsland. The Map and Guide, presented as a double sided colour poster, was compiled by staff at the National Herbarium and gives a comprehensive overview of the vegetation in the region east of the Omeo Highway.

The poster was based on the results of a classification of east Gippsland vegetation by members of the National Herbarium Survey Team in 1981. Plant species were recorded from over 600 sites in the East Gippsland region, and the map and guide list the species and briefly describes the twenty-one plant communities which represent the major vegetation types in the area.

The poster gives information on the climate and geography of the region, effects of fire, timber harvesting and agriculture in East Gippsland and details of the conservation status of the various floristic communities. In addition, the poster includes photos of each plant community with lists of major plant species. The map gives the locations of where the plant communities can be found.

Details included in the vegetation guide and map will be invaluable in providing information for the future management and planning of the area. It will also be useful for naturalists and others interested in the environment who want to find out more about the ecology of the East Gippsland region.

The poster retails for \$4.75 per copy and is available from the following retail outlets:

- * The National Herbarium of Victoria
- * Department of Conservation, Forests and Lands:
Information Centres —
Ground Floor, 240 Victoria Pdc., East Melbourne.
Ground Floor, 601 Bourke St., Melbourne.

Stocks of the poster are also available from the Department of Conservation, Forests and Lands Regional Offices in Bairnsdale and Orbost.

For postage and packaging (Victoria only), add \$1.70 for one or two map/posters \$2.70 for three to fifteen. Copies can be provided either flat or prefolded (please specify).